

Remarks

Currently pending in the application are claims 1-6, 8-11 and 13-15.

Information Disclosure Statement

It is respectfully requested that the documents listed on the attached Form PTO/SB/08 be considered by the Patent and Trademark Office in the above-entitled application and made of record therein.

The Examiner is requested to indicate consideration of this art on the attached Form PTO-1449 by initialing next to the item submitted by Applicant.

35 U.S.C. § 112, Second Paragraph

The Examiner rejected claim 5 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant has amended claim 5 to more particularly point out and distinctly claim the subject matter of the present invention. Applicant respectfully requests the rejection under 35 U.S.C. § 112, second paragraph, be withdrawn.

35 U.S.C. § 103(a)

The Examiner rejected claims 1-6 and 13-14 under 35 U.S.C. § 103(a) as being unpatentable over Das et al. (U.S. Pat. No. 5,922,448) in view of Blykahman (U.S. Pat. No. 5,591,811). The Examiner also rejected claims 8-11 and 15 as being unpatentable over Blykahman in view of Das et al. and Klein et al. (U. S. Pat. No. 6,245,835). Applicant traverses these rejections for the following reasons.

The teachings of Das et al. are directed to a resin blend containing a multifunctional phenolic cyanate/phenolic triazine copolymer (“PT resin”) in

combination with an epoxy resin, which when cured, provides an article having improved thermal and mechanical properties. Das et al. further teaches the blend can also contain a catalyst to increase cure time. Suitable catalysts taught by Das et al. include metal catalysts; phenols selected from: nonylphenol, dodecylphenol; o-cresol; 2-sec.butylphenol; and 2,6-dinonylphenol; and imidazoles selected from 1-methyl imidazole, 2-ethyl-4-methyl imidazole, 2-phenyl imidazole, and 2-methyl imidazole.

The Examiner adds Blykahman to Das et al. for the purpose of teaching the 1-imidazolylmethyl-substituted 2-naphthol compound of the general formula (I). However, neither Das et al. nor Blykahman, alone or together, teach or suggest a composition containing 1-imidazolylmethyl-substituted 2-naphthol compound of the general formula (I) in combination with a phenol selected from the group consisting of 1,4-n-pentylphenol, n-hexylphenol, n-heptylphenol, n-octyphenol, n-decylphenol, and O,O'-diallyl-bisphenol A as presently claimed.

Adding the teachings of Klein et al. also does not bring one skilled in the art closer to Applicant's claimed invention. Klein et al. teaches emulsified-reactive epoxy polymer compositions prepared by epoxy advancement reactions. Klein et al. does not teach or suggest the use of a 1-imidazolylmethyl-substituted 2-naphthol compound of the general formula (I) in combination with a phenol selected from the group consisting of 1,4-n-pentylphenol, n-hexylphenol, n-heptylphenol, n-octyphenol, n-decylphenol, and O,O'-diallyl-bisphenol A to accelerate the cure of such an advancement reaction.

Nevertheless, Applicant has found that 1-imidazolylmethyl-substituted 2-naphthol compounds of the general formula (I) when combined with 1,4-n-pentylphenol, n-hexylphenol, n-heptylphenol, n-octyphenol, n-decylphenol, or O,O'-diallyl-bisphenol A

effectively accelerate the cure of epoxy resin systems at temperatures lower than expected and provide cured articles having higher than expected interlaminar shear strength. In particular, the accelerator system of the present invention is able to cure an epoxy resin system at temperatures between 60°-75°C (rather than temperatures greater than 100°C as generally taught) to provide cured articles having interlaminar shear strength values up to 50 MPa (see Table 2, page 8 of the present application). The Applicant found this both surprising and unexpected. In view of the remarks above, Applicant respectfully requests the rejections under 35 U.S.C. § 103(a) be withdrawn.

Double Patenting

The Examiner provisionally rejected claims 1-6, 8-11 and 13-15 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-25 of co-pending Application No. 10/552,902 in view of Blykahman, Klein et al., and Das et al. Applicant traverses this rejection for the following reasons.

The subject matter of the present invention is directed to naphthalene derivatives which contain a hydroxyl group at the β or 2-position while the subject matter of the claims in co-pending Application No. 10/552,902 is directed to naphthalene derivatives in which the hydroxyl group at the β or 2-position is replaced by an alkyl group. Based on the arguments set forth above, Applicant respectfully submits the subject matter of the claims of the present invention is patentably distinct from that claimed in co-pending Application No. 10/552,902. Accordingly, Applicant requests the provisional rejection of the claims under the judicially created doctrine of obviousness-type double patenting be withdrawn.

Conclusion

It is respectfully submitted that claims 1-6, 8-11 and 13-15 are patentable and are in a condition for allowance. Applicant respectfully requests all pending claims be allowed and that the application pass to issuance.

Respectfully Submitted,

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